

What is claimed is:

- 1 1. An HVAC system for a motor vehicle comprising at least one ultraviolet light
2 source for treating microorganisms within the HVAC system.
- 1 2. The HVAC system of claim 1 wherein the at least one ultraviolet light source
2 comprises a bulb for emitting ultraviolet light in the UV-C spectrum, effective to kill
3 microorganisms.
- 1 3. The HVAC system of claim 2 wherein the ultraviolet light emitted by the at
2 least one ultraviolet light source is approximately 254 nm in wavelength.
- 1 4. The HVAC system of claim 1 further comprising a controller which is
2 communicatively coupled to the at least one ultraviolet light source for selectively
3 activating and deactivating the at least one ultraviolet light source.
- 1 5. The HVAC system of claim 4 further comprising at least one sensor for
2 monitoring a parameter, the sensor being communicatively coupled to the controller
3 and adapted to provide signals to the controller for selectively activating and
4 deactivating the at least one ultraviolet light source.
- 1 6. The HVAC system of claim 1 wherein the at least one ultraviolet light source
2 is operatively disposed within at least one air inlet of the HVAC system.
- 1 7. The HVAC system of claim 1 wherein the at least one ultraviolet light source
2 is operatively disposed within a pre-blower portion of the HVAC system.
- 1 8. The HVAC system of claim 1 wherein the at least one ultraviolet light source
2 is operatively disposed within a post-blower portion of the HVAC system.
- 1 9. The HVAC system of claim 1 wherein the at least one ultraviolet light source

2 is operatively disposed in relative close proximity to an evaporator of the HVAC
3 system.

1 10. The HVAC system of claim 1 wherein the at least one ultraviolet light source
2 is operatively disposed within a post-evaporator portion of the HVAC system.

1 11. The HVAC system of claim 1 wherein the at least one ultraviolet light source
2 is operatively disposed in relative close proximity to a heater core of the HVAC
3 system.

1 12. The HVAC system of claim 1 wherein the at least one ultraviolet light source
2 is operatively disposed within a post-heater core portion of the HVAC system.

1 13. The HVAC system of claim 1 wherein the at least one ultraviolet light source
2 is operatively disposed within at least one air outlet of the HVAC system.

1 14. The HVAC system of claim 1 wherein the at least one ultraviolet light source
2 is operatively disposed in relative close proximity to a drain pan of the HVAC
3 system.

1 15. The HVAC system of claim 1 further comprising a plurality of conduits for
2 communicating air to an inner compartment of the vehicle, the conduits having inner
3 surfaces that absorb ultraviolet light, thereby preventing the transmission of
4 ultraviolet light into the inner compartment.

1 16. The HVAC system of claim 1 further comprising a plurality of conduits for
2 communicating air within the vehicle, the conduits having inner surfaces that reflect
3 ultraviolet light, thereby increasing dispersion of ultraviolet light within the HVAC
4 system.

- 1 17. A method for treating microorganisms within an HVAC system of a motor
2 vehicle comprising:
3 generating ultraviolet light within said HVAC system, effective to kill and
4 prevent growth of microorganisms.
- 1 18. The method of claim 17 wherein the ultraviolet light is in the UV-C spectrum.
- 1 19. The method of claim 18 wherein the ultraviolet light is approximately 254 nm
2 in wavelength.
- 1 20. The method of claim 17 wherein the ultraviolet light is generated by at least
2 one ultraviolet light source which is selectively activated and deactivated according
3 to a control strategy.
- 1 21. The method of claim 20 further comprising:
2 monitoring a parameter; and
3 selectively activating and deactivating the at least one ultraviolet light source
4 based upon the parameter.
- 1 22. The method of claim 17 wherein the ultraviolet light is generated in at least
2 one air inlet of the HVAC system.
- 1 23. The method of claim 17 wherein the ultraviolet light is generated within a pre-
2 blower portion of the HVAC system.
- 1 24. The method of claim 17 wherein the ultraviolet light is generated within a
2 post-blower portion of the HVAC system.
- 1 25. The method of claim 17 wherein the ultraviolet light is generated in relative
2 close proximity to an evaporator of the HVAC system.

1 26. The method of claim 17 wherein the ultraviolet light is generated within a
2 post-evaporator portion of the HVAC system.

1 27. The method of claim 17 wherein the ultraviolet light is generated in relative
2 close proximity to a heater core of the HVAC system.

1 28. The method of claim 17 wherein the ultraviolet light is generated within a
2 post-heater core portion of the HVAC system.

1 29. The method of claim 17 wherein the ultraviolet light is generated within at
2 least one air outlet of the HVAC system.

1 30. The method of claim 17 wherein the at least one ultraviolet light is generated
2 in relative close proximity to a drain pan of the HVAC system.